

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as follows:

1. (currently amended) A multilayer article comprising,
a metal substrate,
a first layer comprising an inner and outer surface,
said first layer comprising a glass/~~hydroxyapatite admixture comprising a glass~~
~~composition and hydroxyapatite particles (HA) composition,~~
said glass composition comprising,
about 44.2 to about 67.7 wt % SiO₂, about 10.1 to about 23.4 wt % CaO, about 5.7
to about 13.3 wt % MgO, about 10.3 to about 23.6 wt % Na₂O, about 2.2 to about 6.5
wt % K₂O and about 6.0 wt % P₂O₅,
wherein said glass composition optionally contains hydroxyapatite particles are
~~present in the glass/hydroxyapatite admixture~~ in an amount of 1.0 wt % up to about
50 wt%.
2. cancelled
3. (original) The multilayer article of claim 1,
wherein there is a first intermediate layer having an inner and outer surface,
and said first intermediate layer is located between the substrate and first layer,
said first intermediate layer comprising a glass composition as defined in claim 1.

4. cancelled

5. (currently amended) The multilayer article of claims 3 ~~or~~ 4,
wherein there is a second intermediate layer located between the first intermediate
layer and the substrate,
said first layer, first intermediate layer and said second intermediate layer all
comprising a glass/~~hydroxyapatite admixture~~ composition as defined in claim 1,
wherein the hydroxyapatite concentration is highest in the first layer-~~admixture~~,
lowest in the second intermediate layer-~~admixture~~, and present in the first
intermediate layer in an amount that is in between the first layer and the second
intermediate layer.

6. cancelled

7. cancelled

8. (currently amended) The multilayer article of claims 1 ~~or~~ 7,
wherein the substrate is Ti or Ti6Al4V.

9. (currently amended) The multilayer article of claims 3 ~~or~~ 4,
wherein the glass composition in the first layer comprises about 54.5 wt % SiO₂,
about 15 wt % CaO, about 8.5 wt % MgO, about 12.0 wt % Na₂O, about 4.0 wt %
K₂O and about 6.0 wt % P₂O₅,
and the glass composition in the first intermediate layer comprises
about 61.1 wt % SiO₂, about 12.6 wt % CaO, about 7.2 wt % MgO, about 10.3 wt
% Na₂O, about 2.8 wt % K₂O and about 6.0 wt % P₂O₅,
and the substrate is Ti or Ti6Al4V.

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10. (currently amended) The multilayer article of claims 3 or 4,
wherein the glass composition in the first layer comprises about 52.7 wt% SiO₂,
about 12.6 wt % CaO, about 7.1 wt % MgO, about 17.0 wt % Na₂O, about 4.6 wt %
K₂O and about 6.0 wt % P₂O₅,
and the glass composition in the first intermediate layer comprises:
about 56.5 wt % SiO₂, about 15 wt % CaO, about 8.5 wt % MgO, about 11.0 wt %
Na₂O, about 3.0 wt % K₂O and about 6.0 wt % P₂O₅,
and the substrate is Ti or Ti6Al4V.

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11. (currently amended) The multilayer article of claims 3 or 4,
wherein the glass composition in the first layer and the first intermediate layer
comprise about 56.5 wt % SiO₂, about 15 wt % CaO, about 8.5 wt % MgO, about
11.0 wt % Na₂O, about 3.0 wt % K₂O and about 6.0 wt % P₂O₅ and the
glass/hydroxyapatite amount admixture in the first layer comprises 50 wt% glass
and 50 wt % hydroxyapatite,
and the substrate is Ti or Ti6Al4V.

12. (currently amended) The multilayer article of claim 5,
wherein the glass composition in the first layer, the first intermediate layer and the
second intermediate layer each comprise about 61.1 wt % SiO₂, about 12.6 wt %
CaO, about 7.2 wt % MgO, about 10.3 wt % Na₂O, about 2.8 wt % K₂O and about
6.0 wt % P₂O₅ and the glass/hydroxyapatite admixture amount in the first layer
comprises ~~60 wt% glass and 40~~ 50 wt % hydroxyapatite,
~~and the admixture in the first intermediate layer comprises 80 wt% glass and 20 wt %~~
~~hydroxyapatite and the admixture in the second layer comprises 60 wt% glass and 40~~
~~wt % hydroxyapatite~~, and the substrate is Ti or Ti6Al4V.

13. cancelled

14. cancelled

15. cancelled

16. cancelled

17. cancelled

18. cancelled

19. cancelled

20. (currently amended) A multilayer article comprising,
 a metal substrate comprising Ti or Ti6Al4V,
 n intermediate layers, where n is an integer,
 a first layer comprising an inner and outer surface,
 said n intermediate layers disposed between the metal substrate and the first layer,
 wherein the n intermediate layers and the first layer each independently comprise a
 glass/hydroxyapatite admixture comprising a glass composition and optionally
 hydroxyapatite particles (HA),
 said glass composition comprising,
 about 44.2 to about 67.7 wt % SiO₂, about 10.1 to about 23.4 wt % CaO, about 5.7
 to about 13.3 wt % MgO, about 10.3 to about 23.6 wt % Na₂O, about 2.2 to about 6.5
 wt % K₂O and about 6.0 wt % P₂O₅,
 and wherein said hydroxyapatite particles being optionally present in the
 glass/hydroxyapatite admixture in an amount of ~~1.0 wt %~~ up to about 50 wt%,
~~such that the first layer has a hydroxyapatite concentration greater than all layers~~
~~under it,~~
~~each n intermediate layer under the first layer has a hydroxyapatite concentration~~
~~greater than the n intermediate layer under it,~~
~~so there is a gradient of glass/hydroxyapatite admixtures in the multilayered article~~
~~such that the highest concentration of hydroxyapatite is found in the first layer and the~~
~~least is found in the n intermediate layer next to the substrate,~~
~~and the glass composition for each layer is chosen such that there such that the first~~
~~layer has a SiO₂ concentration less than all layers under it,~~

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~~and each n intermediate layer under the first layer has a SiO₂ concentration less than the n intermediate layer under it,~~
~~so there is a gradient of SiO₂ concentration in the admixtures in the multilayered article such that the highest concentration of SiO₂ is found in the n intermediate layer next to the substrate and the least is found in the first layer.~~

21. (new) The multilayer article of claim 20, wherein:

the first layer has a glass composition which has a SiO₂ content between about 53 to about 57 wt %.

22. (new) The multilayer article of claim 21, wherein:

n=2.

23. (new) The multilayer article of claim 1, wherein:

the first layer has a glass composition which has a SiO₂ content between about 53 to about 57 wt %.

24. (new) The multilayer article of claim 23, wherein:

n=2.

25. (new) The multilayer article of claim 20, wherein:

the first layer has a glass composition which has a SiO₂ content between about 56 to about 68 wt %.

26. (new) The multilayer article of claim 25, wherein:

n=2.

27. (new) The multilayer article of claim 1, wherein:

the first layer has a glass composition which has a SiO₂ content between about 56 to about 68 wt %.

28. (new) The multilayer article of claim 27, wherein:

n=2.

low/med/high

29. (new) The multilayer article of claim 3,

wherein there is a second intermediate layer located between the first intermediate layer and the substrate,

said first layer, first intermediate layer and said second intermediate layer all

comprising a glass composition as defined in claim 1,

wherein the SiO₂ concentration is highest in the first layer-admixture, lowest in the second intermediate layer-admixture, and present in the first intermediate layer in an amount that is in between the first layer and the second intermediate layer.

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30. (new) The multilayer article of claim 3,

wherein there is a second intermediate layer located between the first intermediate layer and the substrate,

said first layer, first intermediate layer and said second intermediate layer all

comprising a glass composition as defined in claim 1,

wherein the SiO₂ concentration is lowest in the first layer-admixture, highest in the second intermediate layer-admixture, and present in the first intermediate layer in an amount that is in between the first layer and the second intermediate layer.

subs/high/med/low